

In the claims

Please cancel claim 1 – 12 without prejudice. The following listing of the claims will replace all prior versions, and listings, of claims in the application.

1–12 (Cancelled)

13. (New): A system for controlling the interaction of a first force feedback member with a second force feedback member, wherein the first force feedback member and the second force feedback member are communicably coupled, the system comprising:

a local model, wherein the local model is configured to calculate a set point associated with the first force feedback member from:

- a variable measured by the first force feedback member,
- variables intrinsic to the first force feedback member; and
- an estimate of the interaction with the second member, and of a state variable of the first force feedback member;

a remote model communicably coupled to the local model, wherein the remote model is configured to estimate the state variables of the second member and to receive updated data from the second member; and

a resynchronizer communicably coupled to the local model wherein the resynchronizer is configured to send a resynchronization message to the second member.

14. (New): The system of claim 13, further comprising a phantom model, wherein the phantom model is communicably coupled to the resynchronizer, wherein the phantom model is configured

to estimate state variables of the first force feedback member based on resynchronization signals received from the resynchronizer.

15. (New): The system of claim 14, wherein the resynchronizer comprises a comparator, wherein the comparator compares the estimate of the state variables from the phantom model with the state variables from the local model, wherein the resynchronizer is configured to send a resynchronization message to the phantom model and to the second force feedback member when the comparator determines that the difference between the state variables from the phantom model and the state variables from the local model exceeds a predetermined value.

16. (New): The system of claim 13, further comprising an extrapolator, wherein the extrapolator is configured to receive a resynchronization message from the second force feedback member for updating the remote model of the first system.

17. (New): A system for controlling a first force feedback member and a second remote force feedback member, wherein each member is provided with a control system, each of the control systems comprising:

a local model, wherein the local model is configured to calculate a set point associated with the force feedback member from:

- a variable measured by the force feedback member,
- variables intrinsic to the force feedback member; and
- an estimate of the interaction with the other force feedback member and of a state variable of the force feedback member;

a remote model communicably coupled to the local model, wherein the remote model is configured to estimate the state variables of the other force feedback member and to receive updated data from the other force feedback member; and

a resynchronizer communicably coupled to the local model wherein the resynchronizer is configured to send a resynchronization message to the other force feedback member.

18. (New): A method of controlling a force feedback member able to interact with a second force feedback member, the method comprising:

using a local model to determine a set point associated with the first force feedback member from:

- a variable measured by the first force feedback member;
- variables intrinsic to the first force feedback member; and
- an estimate of the interaction with the second force feedback member and of a state variable of the first force feedback member;

using a remote model to determine interactions and state variables of the second force feedback member;

using a remote model to receive updating data from the second force feedback member;
and

generating a resynchronization message and sending it to the second force feedback member.

19. (New): The method of claim 18, further comprising using a phantom model to estimate state variables of the first force feedback member based on resynchronization signals received from the resynchronizer.

20. (New): The method of claim 19, wherein generating a resynchronization message comprises

comparing the state variables from the phantom model with the state variables from the local model, wherein a resynchronization message is generated when the difference between the state variables from the phantom model and the state variables from the local model exceeds a predetermined value.

21. (New): The method of claim 18, further comprising processing a resynchronization message from the second force feedback member with an extrapolator; and updating the remote model of the first force feedback member based on the received resynchronization message from the second force feedback member.

22. (New): A computer program including program code for executing the steps of a method of controlling a first force feedback member able to interact with a second force feedback member when said program runs on a computer, the method comprising:

using a local model to determine a set point associated with the first force feedback member from:

- a variable measured by the first force feedback member;
- variables intrinsic to the first force feedback member; and
- an estimate of the interaction with the second force feedback member and of a state variable of the first force feedback member;

using a remote model to determine interactions and state variables of the second force feedback member;

using a remote model to receive updating data from the second force feedback member;
and

generating a resynchronization message and sending it to the second force feedback

member.

23. (New): A medium capable of being read by a reader and storing program code means for executing the steps of a method of controlling a first force feedback member able to interact with a second force feedback member when the program runs on a computer, the method comprising:

using a local model to determine a set point associated with the first force feedback member from:

- a variable measured by the first force feedback member;
- variables intrinsic to the first force feedback member; and
- an estimate of the interaction with the second force feedback member and of a state variable of the first force feedback member;

using a remote model to determine interactions and state variables of the second force feedback member;

using a remote model to receive updating data from the second force feedback member;
and

generating a resynchronization message and sending it to the second force feedback member.